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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,845	04/09/2004	Kwan-Hee Lee	1514.1037	8679

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STEIN, MCEWEN & BUI, LLP
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WASHINGTON, DC 20005

EXAMINER

HINES, ANNE M

ART UNIT	PAPER NUMBER
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2879

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/820,845	Applicant(s) LEE, KWAN-HEE	
	Examiner Anne M. Hines	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on October 17, 2007 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Cho (US 2002/0043928) (of record).

Regarding claim 1, Cho discloses an organic electroluminescent display device comprising a substrate (Figs. 3A-F, 110; Page 2, Paragraph [0024]); a lower electrode formed on the substrate, the lower electrode having a substantially planar upper surface at a first step difference above the substrate (Figs. 3A-F, 120; Page 2, Paragraph [0024]); a pixel define layer formed on the substrate and covering one portion of the

lower electrode while exposing another portion of the lower electrode, the pixel define layer having an upper surface at a second step difference above the substrate (Figs. 3A-F, 140; Page 2, Paragraph [0024]); an organic thin film layer formed on the organic thin film layer (Figs. 3A-F, 160; Page 2, Paragraph [0024]), wherein the second step difference of the pixel define layer is less than or substantially equal to the first step difference of the lower electrode (Figs. 3A-F, 120 & 140).

Regarding claim 2, Cho further discloses wherein the pixel define layer is a photosensitive resin (Page 2, Paragraph [0024]).

Regarding claims 7 and 9, Cho further discloses wherein the lower electrode comprises a transparent electrode material of ITO (Page 1, Paragraph [0005]; Page 2, Paragraph [0026]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cho (US 2002/0043928) (of record) in view of Arnold et al. (US 7038373).

Regarding claim 8, Cho teaches the invention of claim 7, and wherein the lower electrode of a bottom emitting OLED is a transparent electrode. Cho fails to teach

wherein the lower electrode is a reflective electrode of a material from the group consisting of Al, Al/ITO, Cr, Pt, Au, Ag, Ag/ITO, Al/IZO, Pd, Ni, and an alloy film thereof.

In the same field of endeavor of organic electroluminescent devices, Arnold teaches wherein an OLED is provided as a top emitting with reflective lower electrode or a bottom emitting device with a transparent lower electrode, thus exemplifying recognized equivalent structures of the OLED in the art. Arnold further teaches wherein the reflective lower electrode material is chosen from the group consisting of Au, Pd, or Pt (Column 7, lines 43-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the OLED of Cho as top emitting with a reflective lower electrode of Au, Pd, or Pt instead of as bottom emitting, since the selection of any of these known equivalents would be considered within the level of ordinary skill in the art as evidenced by Arnold's teaching.

Allowable Subject Matter

Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 3, and specifically comprising the limitation of a buffer pattern between the lower electrode and the

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substrate which has a predetermined thickness sufficient to reduce a difference between the first and second step differences.

Claims 4-6 are allowable due to their dependency status from claim 3.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne M. Hines whose telephone number is (571) 272-2285. The examiner can normally be reached on Monday through Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Anne M Hines
Patent Examiner
Art Unit 2879


MARICELI SANTIAGO
PRIMARY EXAMINER